IQeye Alliance MX Series, IQM30NE-B5
H.264, SD480p, Color Indoor/Outdoor Vandal Resistant Network Dome Camera with Integrated Lens

PART 2 – PRODUCTS

2.1 MANUFACTURER

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2.2 DESCRIPTION

The product specified shall be an all-in-one indoor/outdoor, vandal resistant dome enclosure with integrated H.264 (MPEG 4, Part 10) camera and varifocal lens providing SD480p resolution at full video frame rate of 60fps with audio. Dual encoders allow simultaneous viewing of both H.264 and MJPEG video streams, and shall conform to the ONVIF, and PSIA standards.

The camera offers Lightgrabber™II for enhanced image sensitivity and DTS (Direct-To-Storage) recording. Requiring low power the camera is PoE (IEEE 802.3af) compliant. The camera offers Day/Night functionality with high sensitivity for use in low light indoor/outdoor applications. The dome camera is constructed of cast-aluminum and tamper resistant clear polycarbonate dome bubble with inner liner and is IP66 / NEMA4 rated.

2.3 GENERAL REQUIREMENTS

A. The IP dome camera shall be a high impact aluminum, vandal resistant, Day/Night color dome camera with a progressive scan CMOS sensor.

B. The IP dome camera shall utilize a CMOS sensor that is 1/3-inch with a dichroic infrared mirror capable of producing SD480p resolution.

C. The IP dome camera shall have no less than 720(H) x 480(V) pixels.

D. The camera shall be H.264 (MPEG 4, Part 10) compliant.

E. The IP dome camera shall provide H.264 (MPEG 4, Part 10) and MJPEG video compression with simultaneous streaming of both image formats.

F. The IP dome camera shall use Main Profile (MP) for mainstream consumer broadcast and storage applications.

G. The IP dome camera H.264 encoded video stream shall support full real time video frame rate of 60fps at a maximum resolution of SD480p (720 x 480).

H. The IP dome camera MJPEG encoded video stream shall support full real time video frame rate of 60fps at a maximum resolution of SD480p (720 x 480).

I. The IP dome camera shall be configurable to output images at following resolutions from the webpage and API interface.
    1. H.264 480p & MJPEG 480p
    2. H.264 480p & H.264 SIF
    3. H.264 480p & MJPEG SIF

J. The IP dome camera shall be configurable to output the following images at the following resolutions when configured from the API interface.
    1. H.264 480p + MJPEG 480p
    2. H.264 480p + H.264 SIF
    3. H.264 480p + MJPEG SIF

K. The IP dome camera shall have bit rate control over the H.264 image stream.

L. The IP dome camera shall have a selectable bit rate from 256 Kbps to 11 Mbps for the H.264 image stream.

M. The IP dome camera shall have quality control over the MJPEG image stream with four selectable quality values from the webpage interface.

N. The IP dome camera shall have quality control over the MJPEG image stream with 86 selectable compression values from the API interface.

O. The IP dome camera shall conform to the ONVIF standard.

P. The IP dome camera shall conform to the PSIA standard.

Q. The IP dome camera shall be Power over Ethernet (IEEE802.3af Class1) compliant for indoor/outdoor applications.

R. The IP dome camera shall have an integrated 3-13mm megapixel IR corrected varifocal lens with F1.4, and 1/3" optical format.

S. The IP dome camera shall provide a cast-aluminum housing, polycarbonate dome and inner liner.

T. The IP dome camera shall provide protection against water and dust up to IP66 / NEMA4 standards.

U. The IP dome camera shall be designed to be surface mounted to a wall or ceiling and wall mounted with optional accessories.

V. The IP dome camera shall be designed to be mounted to a single or double gang outlet box with optional accessory.

W. The IP dome camera shall have a 3-axis gimbal providing 360˚pan, 90˚ tilt and 350˚ azimuth for easy camera positioning.

X. The IP dome camera minimum illumination requirement to produce an image in color mode will be 0.10 lux (0.01 fc) with an F1.4 lens.

Y. The IP dome camera shall provide a motorized IR filter that will automatically switch from color to monochrome enhancing low lighting or in applications where IR illumination is utilized.

Z. The IP dome camera shall require less than 0.05 lux (0.005 fc) to produce a monochrome image when in night mode.

AA. The IP dome camera shall be sensitive from 800nm to 940nm IR illumination.

BB. The IP dome camera shall have a feature (LIGHTGRABBER™II) that enhances camera sensitivity by increasing the integration time of the CMOS sensor.

CC. The IP dome camera shall provide automatic white balance, automatic exposure, gain control, electronic shutter, and backlight compensation.

DD. The IP dome camera shall provide user configurable saturation, contrast, brightness, and sharpness controls from the webpage interface.

EE. The IP dome camera shall provide a fully programmable motion detection area with adjustments for sensitivity and size to detect motion in various lighting conditions.

FF. The IP dome camera shall provide a video flip and rotate function to allow the image to be digitally rotated 180 degrees, or to flip the image horizontally or vertically.

GG. The IP dome camera shall provide selectable AC Lighting control for 50Hz or 60Hz lighting.

HH. The IP dome camera shall transmit full duplex, bi-directional (two-way) audio that is synchronized with the H.264 video stream.

II. The IP dome camera shall support DTS (Direct-To-Storage) for recording of time lapse and event recording using network attached storage.

JJ. The IP dome camera shall have an event handler allowing the camera to send an image or video clip to an FTP site, email address, and or network attached storage when receiving an internally or externally generated event.

KK. The IP dome camera shall support the following licensed On-Camera IQapps.

1. IQaccess: Software that enables multiple users to receive alerts via a pop-up window when the camera receives a hardware or software trigger.

LL. The IP dome camera shall be FCC Part 15 Class B, CE, and RoHS compliant.

MM. The IP dome camera shall operate within an ambient temperature of -20˚C (-4˚F) – to +50˚C (+122˚F).

2.4 NETWORKING REQUIREMENTS

A. The IP dome camera shall incorporate a built-in web server allowing full control and configuration of the camera.

B. The IP dome camera shall be Power over Ethernet (IEEE802.3af Class1) compliant.

C. The IP dome camera shall have a 100 Mbps Ethernet RJ-45 connection that can deliver data at a maximum rate of 35 Mbps.

D. Ethernet:
   1. 10/100 Base-T
   2. Auto-sensing
   3. Half/Full Duplex
   4. RJ45

E. The IP dome camera shall provide integrated support for TCP/IP, HTTP, HTTPS, DHCP, UDP, RTP, RTSP, DNS, ARP, ICMP, NTP, UPnP, ZeroConf, APIPA, UDP multicast, SNMP, FTP, SMTP, Telnet, and CIFS protocols.

F. The IP dome camera shall have RTSP (Real Time Streaming Protocol) support for compatibility with media players such as VLC Player, Apple QuickTime, Windows Media Player, and Core Player.

G. The IP dome camera shall deliver SD480p quality video at a frame rate of 60fps via TCP/IP over CAT5 or CAT6 cable.

H. The IP dome camera shall not require unique or proprietary client software for viewing or controlling the camera.

I. The IP dome camera shall conform to the ONVIF and PSIA standards.

J. The IP dome camera shall be available to users running versions of Internet Explorer™, Firefox™, Safari™, Chrome™, Opera™, or Mozilla™.

K. The IP dome camera shall provide secure user and administrator password protection.

2.5 SENSOR

A. Type: CMOS 1/3-inch, Rolling Shutter

B. Megapixel Rating: 0.3 MP

C. Active Pixels: 720 x 480

D. Bayer RGB filter

2.6 VIDEO

A. Maximum Resolution: 720 (H) x 480 (V)

B. Shutter:
   1. Automatic /Configurable/ Fixed
   2. Rolling Shutter
   3. Maximum speed shall be 1/12,000 of a second

C. Day/Night: Auto, Color, Monochrome

D. Sensitivity:
   1. Color: 0.1 lux (0.01 fc) with an F1.4 lens
   2. Monochrome: Less than 0.05 lux (0.005 fc) with an F1.4 lens

E. IR Range (nm): 800 to 940

F. Dynamic Range: 74dB

G. Exposure: User configurable

H. White Balance: AWB (Automatic)

I. Backlight Compensation: Auto

J. Saturation: User configurable

K. Contrast: User configurable

L. Brightness: User configurable

M. Sharpness: Four levels, User configurable

N. Gain Control: AGC (Automatic)

O. Motion Detection: Four windows, User configurable

P. Flip and Rotate: 180˚, Horizontal, Vertical

Q. AC Lighting Control: 50Hz / 60Hz, User selectable

R. Camera Name: 16-characters

2.7 IP VIDEO

A. Video Compression Standards:
   1. H.264 (MPEG 4, Part 10)
   2. MJPEG

B. H.264 Profile: Main Profile

C. Network Streams:
   1. Single H.264 or MJPEG stream with configurable frame rate, bit rate, and quality.
   2. Multiple H.264 streams with configurable frame rate, and bit rate.
   3. Multiple simultaneous H.264 and MJPEG streams with configurable frame rate, bit rate, and quality.

D. Frame Rate:
   1. H.264: 1, 2, 3, 4, 5, 7.5, 10, 15, 30, 60 fps @ (Maximum Resolution 720 x 480)
      i. Frame rate is configurable via the user interface and API.

E. Data Rate:
   1. 256 Kbps to 11 Mbps.
   2. 35 Mbps with no throttling.

F. GOP structure: Adjustable length (I&P frames).

2.8 OPTICS

A. Varifocal Lens:
   1. 3-13mm,
   2. F1.4
   3. IR-corrected
   4. Manual zoom
   5. Manual (EZ Glide) focus
   6. Fixed iris

B. Lens Mount: M14

2.9 AUDIO

A. The IP dome camera shall transmit full duplex, bi-directional (two-way) audio that is synchronized with the H.264 video stream.

B. The IP dome camera shall have an external microphone / line level input on a flying lead cable with a 3.5mm audio connector for connecting an external monaural microphone or line level audio source.

C. The IP dome camera shall provide adjustable gain levels for the external microphone / line level audio input.

D. The IP dome camera shall have the ability to enable or disable the external microphone / line level audio input.

E. The IP dome camera shall have an audio output for connecting amplified external speakers on a flying lead cable with a 3.5mm audio connector.

F. The IP dome camera shall have the ability to enable or disable the audio output.

G. The IP dome camera shall have adjustable gain levels for the audio output.

H. The IP dome camera shall have a push-to-talk button in the user interface.

I. The IP dome camera shall have a mute audio button in the user interface.

J. Audio compression: G.711 PCM 8 kHz.

2.10 SYSTEM INTEGRATION, CONTROL & CONFIGURATION SOFTWARE

A. DTS (Direct-To-Storage)

B. ONVIF

C. PSIA

D. Web browser

E. IQfinder: Software utility to find IQeye cameras.

F. IQmanager: Camera management & configuration software

G. IQsentry: 4-Channel Camera Management / Recording Software

H. Software Update: Remote programmable Flash ROM.

2.11 ON-CAMERA IQapps

A. IQaccess

2.12 CONNECTORS

A. RJ45 Ethernet connector (IEEE 802.3af PoE compliant)

B. Audio:
   1. External Microphone / Line input on a flying lead cable with a 3.5mm connector.
   2. External speaker output on a flying lead cable with a 3.5mm connector.

2.13 ELECTRICAL

A. Power Consumption 3.8 Watts maximum.

B. IEEE 802.3af Power over Ethernet on Cat-5 or Cat-6 cable.

C. PoE Class: Class 1

2.14 MECHANICAL SPECIFICATION

A. Construction:
   1. Cast-aluminum enclosure.
   2. Aluminum trim ring
   3. Dome Bubble: Clear scratch resistant polycarbonate.

B. Mounting: Surface Mount, Wall Mount with accessory.

C. Color:
   1. Enclosure and trim ring: Cool Gray #2
   2. Inner Liner: Black

D. 3-Axis gimbal adjustment:
   1. Pan: 360˚
   2. Tilt: 90˚
   3. Azimuth: 350˚

E. Dimensions:
   1. 3.83 H x 5.9 W x 5.9 D (in)
   2. 97.3 H x 150 W x 150 D (mm)

F. Dome Bubble Diameter:
   1. 3.86 (in)
   2. 98 (mm)

G. Weight:
   1. 900 (gm)
   2. 31.7 (oz)

H. The IP dome camera shall have solid-state components to resist shock and vibration.

2.15 INSTALLATION

A. Shall contain a full-featured IP dome camera with integrated varifocal lens.

B. Shall be capable of being mounted to a wall or ceiling surface.

C. Shall provide video, control, and will be powered over an Ethernet connection.

D. Shall provide audio input and output on a flying lead cable with 3.5mm socket connectors.

E. Shall provide multiple language support for English and Chinese.

2.16 ENVIRONMENTAL

A. Operating temperature rage: -20˚C (-4˚F) – to +50˚C (+122˚F)

B. Operating Humidity range: 10% to 80% non-condensing.

C. Water & Dust protection:
   1. IP 66
   2. NEMA 4

2.17 REGULATORY APPROVALS

A. Electromagnetic Compatibility
   1. Emissions
      i. FCC, class B part 15
      ii. EN 55022: 1998 with A1: 2000, A2: 2003; Class A
      iii. CISPR 22: 1997 with A1: 2000, A2: 2002; Class A
      iv. AS/NZS CISPR 22: 2002; Class A
   2. Immunity
      i. EN 55024: 1998 with A1: 2001, A2: 2003
      ii. CISPR 24: 1997 with A1: 2001, A2: 2002

B. Safety:
   1. EN 60950-1: 2001 with A11: 2004
   2. IEC 60950-1: 2001

C. RoHS
   1. All material and/or components used in the manufacture of the product shall be in compliance with the EU Directive 2002/95/EC Restriction of Hazardous Substance (RoHS).

2.18 WARRANTY

A. Manufacturer shall warrant the camera to be free from defects in material and workmanship for three years from the purchase date.